

## REMARKS/ARGUMENTS

Applicants acknowledge receipt of the Office Action dated March 7, 2008. Claims 1-12, and 19-26 are pending in the application. By this Response, claims 1-3, 6-10, 12, 20, and 26 have been amended and new claim 27 has been added. No new matter is added by the amendments.

In the Office Action, claims 1-12 and 19-26 are rejected under 35 U.S.C. § 102 (b), as being anticipated by Wong et al. (Nano Letters, 2001, Vol. 1, No. 11, p. 637-642) ("*Wong*"). In addition, claims 9, 10, and 12 were rejected under 35 U.S.C. § 103 (a) as being unpatentable over Wong et al. Furthermore, claims 7 and 8 were rejected under U.S.C. § 103(a) as being anticipated by Wong in view of Soler-Illia et al. (New. J. Chem., 2001, 25, p. 156-165) ("*Soler-Illia*"). Finally, claims 3 and 24 were rejected under U.S.C. § 103(a) as being unpatentable by Wong in view of Edler et al. (J. Chem. Soc., Chem. Commun., 1995, p. 155-156) ("*Edler*"). Applicants believe all pending claims are allowable over the art of record and respectfully request reconsideration and allowance of all claims.

**I. Claims 1, 2, 4-6, 11, 19-23, 25 and 26 are not anticipated by Wong.**

Applicants respectfully traverse the Examiner's rejections of claims 1, 2, 4-6, 11, 19-23, 25 and 26, under § 102(b) as being anticipated by Wong. In order to establish a *prima facie* case of anticipation, the Examiner must show that each and every element of the claims is found, either expressly or inherently described, in a single prior art reference. *Verdegaal Bros. V. Union Oil Co. of California*, 814 F.2d 628, 631, 2 U.S.P.Q.2d 1051, 1053 (Fed. Cir. 1987). If a single element is not found in the prior art reference, the claims are not anticipated. Applicants respectfully disagree that Wong anticipates claims 1, 2, 4-6, 11, 19-23, 25 and 26.

Claim 1 is an independent claim upon which claims 2, 4-6, 11, 19-23, 25 and 26, depend, respectively. Claim 1 recites "adding a first catalytic component or precursor thereof and a pore-forming agent to the composition containing nanoparticles and allowing the first catalytic component, the pore-forming agent, and the nanoparticles form a clear solution." and "drying the solution so as to allow an organic-inorganic gel structure to form." Wong does not disclose such limitations. Instead, Wong discloses a different method and mechanism for forming the catalysts. Specifically, Wong describes the synthesis of mesoporous tungstated zirconia by *precipitation* followed by calcination. Wong, p. 638. In contrast, Claim 1 recites adding a first catalytic component or precursor thereof and a pore-forming agent to the composition containing nanoparticles and allowing the first catalytic component, the pore-forming agent, and the

nanoparticles to form a clear solution. As such, the precipitation regime is avoided in forming the porous catalyst. *Wong* cannot possibly disclose a clear solution because it discloses precipitate being formed. Accordingly, *Wong* does not disclose all the claim limitations of claim 1.

Because *Wong* does not disclose each and every element of independent claim 1, it does not anticipate claim 1 or dependent claims 1, 2, 4-6, 11, 19-23 25 and 26 and the Examiner's current rejection is moot. Therefore, the Applicants request withdrawal of this rejection.

## **II. Claims 9, 10 and 12 are patentable over *Wong*.**

Applicants respectfully traverse the Examiner's rejections of claims 9, 10 and 12 under § 103(a) as being unpatentable over *Wong*. "The key to supporting any rejection under 35 U.S.C. 103 is the clear articulation of the reason(s) why the claimed invention would have been obvious." See MPEP § 2143 (2007). To establish obviousness, each of the claim limitations must be taught or suggested by the prior art. See *CFMT, Inc. v. YieldUp Int'l Corp.*, 349 F.3d 1333, 1342 (Fed. Cir. 2003) (citing *In re Royka*, 490 F.2d 981, 985 (CCPA 1974)). In addition, "[i]f an independent claim is nonobvious under 35 U.S.C. § 103, then any claim depending therefrom is nonobvious." MPEP § 2143.03 (2007) (citing *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988)). Applicants respectfully submit that a case of obviousness has not been established in rejecting claims 9, 10 and 12.

Claims 9, 10, and 12 are dependant on independent claim 1. Amended claim 1 recites "adding a first catalytic component or precursor thereof and a pore-forming agent to the composition containing nanoparticles and allowing the first catalytic component, the pore-forming agent, and the nanoparticles form a clear solution" and "drying the solution so as to form an organic-inorganic gel structure." *Wong* does not disclose such limitations. Instead, the synthesis of mesoporous metal oxides described in *Wong* expressly teaches formation of precipitate in solution. *Wong*, p. 638. By comparison, claim 1 recites adding a first catalytic precursor and a pore-forming agent to the composition containing nanoparticles and allowing the first catalytic component, the pore-forming agent, and the nanoparticles form a clear solution. Accordingly, *Wong* does not teach or suggest all the claim limitations of claim 1.

Applicants therefore respectfully submit obviousness has not been established because references have not been cited that teach or suggest all of the elements recited in the rejected claims. Since independent claim 1 is submitted to be allowable, dependent claims 9, 10, and 12 must *a fortiori* also be allowable, as they carry with them all the limitations of claim 1.

Accordingly, Applicants respectfully request withdrawal of the § 103 rejections of claim 9, 10, and 12.

**III. Claims 7 and 8 are patentable over *Wong* in view of *Soler-Ilia*.**

Applicants respectfully traverse the Examiner's rejection of claims 7 and 8 under 35 U.S.C. § 103 (a) as being unpatentable over *Wong* and *Soler-Ilia*. Because independent claim 1 has not been shown to be obvious in view of *Wong*, as explained above, and because claims 7-8 depend from claim 1, claims 7-8 are allowable for the reasons set out above in Section II. Additionally, *Soler-Ilia* cannot supply the missing limitations to *Wong* because it also does not teach or suggest adding a first catalytic precursor and a pore-forming agent to the composition containing nanoparticles . . . to form a clear solution. *Soler-Ilia* is only directed to the hydrolysis of metal oxides to form precipitates or xerogels of the metal oxide. Nothing in *Soler-Ilia* contemplates the use of nanoparticles as a substrate for a catalytic metal. Moreover, *Wong* teaches away from using the teachings of *Soler-Ilia*. Specifically, *Wong* states the  $\text{Ti}_{10}\text{O}_{16}(\text{OEt})_{32}$  clusters formed by the technique in *Soler-Ilia* were unstable to surfactant removal. *Wong*, p. 641. Thus, one of ordinary skill in the art would not be motivated to combine *Wong* and *Soler-Ilia*. As such, Applicants respectfully submit that claims 7 and 8 are patentable over *Wong* in view of *Soler-Ilia* and respectfully request withdrawal of the rejection.

**IV. Claims 3 and 24 are patentable over *Wong* in view of *Edler*.**

Applicants respectfully traverse the Examiner's rejections of claims 3 and 24 under § 103 as being unpatentable over *Wong* in view of *Edler*. Because independent claim 1 has not been shown to be obvious in view of *Edler*, as explained above, and because claims 3 and 24 depend from claim 1, claims 3 and 24 are allowable for the reasons set out above in Section II. Further, *Edler* cannot supply the missing limitations to *Wong* because it does not teach or suggest any of the missing limitations. Instead, *Edler* is only directed to synthesizing silica mesoporous materials for molecular sieves without use of any composition containing nanoparticles. Nor does *Edler* teach use of a first catalytic precursor. Thus, *Edler* cannot possibly teach or suggest adding a first catalytic precursor and a pore-forming agent to the composition containing nanoparticles . . . to form a clear solution. For at least the reasons set forth above, claims 3 and 24 are not obvious over *Wong* in view of *Edler* and respectfully request withdrawal of the rejection.

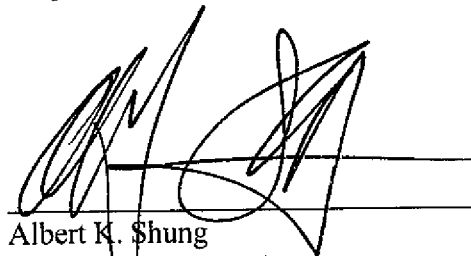
**V. Conclusion**

Applicants respectfully request reconsideration, allowance of the pending claims and a timely Notice of Allowance be issued in this case. If the Examiner feels that a telephone conference would expedite the resolution of this case, the Examiner is respectfully requested to contact the undersigned.

In the course of the foregoing discussions, Applicants may have at times referred to claim limitations in shorthand fashion, or may have focused on a particular claim element. This discussion should not be interpreted to mean that the other limitations can be ignored or dismissed. The claims must be viewed as a whole, and each limitation of the claims must be considered when determining the patentability of the claims. Moreover, it should be understood that there may be other distinctions between the claims and the prior art that have yet to be raised, but which may be raised in the future.

If any fees are inadvertently omitted or if any additional fees are required or have been overpaid, please appropriately charge or credit those fees to Conley Rose, P.C. Deposit Account Number 03-2769.

Respectfully submitted,

A handwritten signature in black ink, appearing to read 'Albert K. Shung', is written over a horizontal line. The signature is stylized and cursive.

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